

## TRAUMATIC ABSCESS OF CEREBRUM.

RECOVERY AFTER TREPHINING AND DRAINAGE.

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THE following case of brain abscess is reported because of its interesting diagnostic features, and also because it illustrates to what an extent operative interference may be carried in dealing with brain tissue itself, provided the principles of asepsis are followed.

*Temporosphenoidal Abscess following Gunshot Wound of Ear; Trephining; Drainage with Rubber Tube for Three Days; Recovery Complete, without Paralysis or Loss of Cerebral Function.*

May 10, 1904, Mrs. M., twenty-eight years old, a slender German woman, during a period of mental depression shot herself with a 32-caliber revolver in the right ear. Four days after the injury she was seen in consultation with her attending physician, Dr. Barnett, of Rosedale. She had reacted fairly well from shock, but lay in a semiconscious condition. The wound just behind the right external auditory meatus was badly powder-burnt, but had suppurated very little. Under chloroform anæsthesia the ear was thrown forward by a curved posterior incision and a badly battered 32-caliber bullet, together with fragments of lead and bone, removed. The bullet had shattered the petrous portion of the temporal bone; only a thin shell of bone remained between this cavity and the cerebral contents. The wound was cleansed, packed through the bullet wound, and the incision closed with sutures. There was paralysis of the right side of the face and inability to completely close the right eyelids, due to injury to the seventh nerve. The operative wound healed by primary union, and the gunshot wound was clean and had almost closed when the patient was turned over to attending physician.

Six weeks after the injury, June 23, 1904, I again saw the

patient, owing to some unusual symptoms that had recently developed. She was seated in a chair by the bedside, with one hand against the right side of her head. Her physician stated that she would remain in the same position for hours, or when put to bed would lie in one position, usually on her side, without moving. When aroused she complained of frightful headache, chiefly over the right side of head, forehead, and right eye.

Her mental faculties were decidedly dulled. When spoken to she would be slow in replying, often waiting so long that it was thought she had not heard or comprehended, when suddenly she would answer shortly but correctly. A long reply she would not make, and often she would not reply at all, even to a simple question, apparently going off into a doze. Sometimes she would not finish her sentences; all her mental processes seemed dulled or delayed, and she had not the power of sustained attention. She was mildly delirious at times. Her temperature was subnormal, and her pulse was slow but weak at 52 per minute.

The pupils were markedly unequal; the right dilated but reacted slowly to light. Nystagmus was present. No changes in the fundus could be detected. The patient had vomited several times recently, but there was no persistence of this symptom, and it was difficult to determine that it was of central origin. The tongue was coated and the breath foul. The tongue deviated markedly to the left side. There was no paralysis beyond that of the seventh nerve, which had been destroyed by the original gunshot wound. The patient was extremely weak. She voided urine normally, but was habitually constipated. There had never been any rigors or convulsions, but emaciation was extreme.

It seemed probable that an abscess of the temporosphenoidal lobe had developed, either through an infection which extended from the old gunshot wound, or (which seemed more probable, considering the clean conditions of the wound) that the severe local concussion which the temporal lobe had received at the time the shot was fired had so devitalized an area of brain substances that a local abscess resulted. This latter opinion was found correct.

Patient was immediately sent to St. Joseph's Hospital, where, with the assistance of Dr. Barnett and Dr. C. L. Spaulding, the skull was opened. An inverted U-shaped incision was made, beginning at the angle of the mastoid, extending upward for

about two and one-half inches, and then curving forward and downward to a point three-fourths of an inch anterior to the middle of the zygoma. The bone was laid bare, hæmorrhage was checked, and a trephine placed one inch above and anterior to the external auditory meatus. This afforded access to the sphenotemporal lobe at its base, and was admirable for exploration and drainage. The trephine opening was slightly enlarged with rongeur forceps, and a meningeal vessel of fair size was ligated with catgut on a fine curved needle. The meninges were opened, when the brain bulged into the wound, but did not pulsate. Its surface was normal. A large, smooth bullet probe and, later, a grooved director were passed under the temporal lobe, and also between the meninges and the bone, but failed to find pus.

Consequently, a medium sized aspirating needle was thrust into the brain substances downward and forward towards the petrous bone. At a depth of about one inch it encountered pus. The needle was left *in situ* and a grooved director was passed along it as a guide, and about two drachms of pure yellowish pus were evacuated. A small rubber drainage tube was inserted most carefully into the brain substances down to the point where pus was encountered. There was no distinct abscess wall. The free end of the tube was brought out through a button-hole in the skin flap. The brain substances were injured almost none at all.

The wound was closed, and a small wick of gauze was inserted at the posterior angle of the wound down to the meninges. There was very little shock. Patient left the table with a pulse of 60 and of fair quality. Morphine was given, and she had a very comfortable night. She was not nauseated. The following morning she was conscious, and asked about her husband and doctor, and specified the kind of food she wanted. Pulse, 66; temperature, 99° F.

During the day she lay quiet, but could be aroused. At these intervals she seemed conscious. Her condition remained practically unchanged until the third day, when her mental stupor deepened and symptoms of cerebral pressure developed.

The wound was immediately dressed. The drainage tube (which had ceased discharging) was removed, and the track of the tube gently irrigated with sterile water. The wound was

perfectly clean. The next morning the patient was conscious. She talked rationally to her nurse, and was reading a German prayer-book when visited by the house doctor. The tube was evidently causing the pressure symptoms. From this on she made an uneventful and rapid recovery.

An interesting psychological point in reference to her convalescence is the fact that the patient remembered nothing that occurred from the date the injury was received until a few days prior to her departure from the hospital.

On July 5 she returned home without a single mental symptom. Her further progress towards recovery was uninterrupted.